REMARKS

Claims 1-16 are pending in the application. Claims 1-16 are rejected.

Claims 1 and 2 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Titchener, in view of Kawazoe et al. (Kawazoe) and Glass et al. (Glass).

The Office Action assert (page 4, 5) Titchener discloses the augment code buffer 33 applied to prefixing coding operating, and the augment code buffer 22 holds the incoming augment code from the input code 29 set, as the claimed operating-object holding means. Also the input code set 29 is holding the augment code result performed in advance before receiving the next output code set on input 36 to be operated with input 26 base set.

However applicant's claims 1 and 2 recite that

operating-object holding means for <u>sequentially</u> holding each word respectively consisting of plural bits, and of constant word lengths;

argument holding means for holding an argument that should be applied to an operation that is performed on a word that is subsequently held by said operating-object holding means, and <u>the argument being included in said word being held</u> by said operating-object holding means <u>and/or</u> the <u>result of an operation performed</u> in advance on the word being held by said operating-object holding means.

The inventions in Claims 1 and 2 have only a similarity with proposed combination of cited references Titchener, Kawazoe, and Glass in that coding or decoding is performed as the logical operation. However, the features Claims 1 and 2 are patentably different from the configuration of the combination of three references on the following points:

Neither an object being subjected to a logical operation nor an argument being applied to a subsequent logical operation is supplied as: a word which is added a bit being fed

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subsequently; or a word which includes a part of the operation object or the argument, and a bit subsequent to the part.

Also the description in Claims 1 and 2 of the present invention, that is, "sequentially holding each word respectively consisting of plural bits, and of constant word lengths" provides that the word being held in the operating-object holding means is not updated until a subsequent word which includes subsequent bits shorter than those constituting the constant word lengths is determined, even when the subsequent bits are to be sequentially determined.

Furthermore <u>Kawazoe teaches away from applicant's claimed invention</u>. As described in column 5, lines 59-61 in Kawazoe et al. that "upon each 3-bit addition of the original data D, the 4-bit (I_1, I_2, Q_1, Q_3) convolutional code is output." Kawazoe teaches that the object of logical operation is changed even in the process of determining such subsequent word, or since the logical operation is performed on the assumption that its object could make such changes. This is different from applicant's claimed invention. Because of the teachings of Kawazoe one skilled in the art at the time the invention was made would understand that complex hardware would be required to perform the additional control operations such as synchronization or the like to properly obtain a result of the convolutional coding.

Moreover, neither individually nor in combination do Titchener, Kawazoe, and Glass indicate or suggest the following points:

Each word to be held in the operating-object holding means is fed therein by being divided into units of constant word lengths consisting of plural bits, respectively. In the process of a logical operation to achieve coding or decoding, the word is supplied to operation means through argument holding means when needed.

In addition, the word thus being held in the operating-object holding means is not

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updated until a subsequent word which includes subsequent bits shorter than those constituting the above constant word lengths is determined, even when the subsequent bits are to be sequentially determined. This is clear from the description in Claims 1 and 2 of the present invention, that is, "sequentially holding each word respectively consisting of plural bits, and of constant word lengths."

Furthermore, the operation means never retries the logical operation until a subsequent word is supplied. The results of these logical operations indicate direct results of desired coding and decoding.

For at least the foregoing reasons it is respectfully requested the rejections be withdrawn.

Claims 3 and 4 are rejected as per claim 1 and further in view of Lan et al. (Lan). Claims 5 and 6 are likewise rejected as applied to claim 1 with claim 5 further rejected by Kindred et al. (Kindred) and Claim 6 by Kim and Claims 7-14 also as applied to claim 1, and further in view of Sugahara et al. (Sugahara). With regard to claims 3-14, it is respectfully submitted that dependent claims 3-14 are in condition for allowance since the combination of Titchener, Kawazoe, and Glass and any of Lan, Kindred, Kim or Sugahara shows the features of Applicant's claims 1 or 2. Further these dependent claims provide additional distinguishing features than claims 1 and 2. Therefore, for at least the reasons stated above these claims should be allowed.

Claims 15 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Titchener in view of Kawazoe, Glass is applied to claim 1 and further in view of Astrachan (U.S. 5,612,974).

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Claims 15 and 16 contain similar distinguishing features as claims 1 and 2 and would

likewise not be obvious in view of the cited references Titchener, Kawazoe, Glass since the cited

Astrachan does not teach the deficiencies of Titchener Kawazoe, Glass.

Moreover, none of Titchener, Kawazoe, Glass, and Astrachan indicate or suggest to make

such a combination of references as proposed by the Office Action. It is well-established that a

combination of limitations, some of which separately may be known, may be a new combination

of limitations which is nonobvious under the condition of 35 U.S.C. 103. Moreover, "an

examiner may often find every element of a claimed invention in the prior art." In re Rouffet, 47

USPQ3d 1453, 1457 (Fed. Cir. 1998) (reversing PTO obviousness rejection based on lack of

suggestion or motivation to combine reference).

Therefore even if every element of a claimed invention is in the combined prior art there

must be some suggestion or motivation to combine the references. "Although a reference need

not expressly teach that the disclosure contained therein should be combined with another, the

showing of combinability, in whatever form must nevertheless be 'clear and particularity.'" In re

Dembiscak, 175 F.3d 994, 999 (CAFC 1999).

The only such suggestion provided has been from applicant's own disclosure.

Because of applicant's unique combination of features in Claims 1, 2, 15, and 16 the

following unique objects are achieved which cannot be achieved by any of Titchener, Kawazoe,

Glass, and Astrachan:

A) "An object of the present invention is to provide a coding assisting equipment, a

decoding assisting equipment, a radio transmitter, and a radio receiver which can

realize desired coding and decoding at high speed with high reliability without the

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need for changing the basic hardware and software configurations to a large extent." (page 7, lines 23-28 in the present invention)

B) "Another object of the invention is to efficiently realize coding and decoding without the need for providing any means for storing, in advance, all words to be subjected to coding or changing intervals of feeding of those words." (page 7, lines 29-32 in the present invention)

C) "Still another object of the invention is to increase the service quality and the transmission efficiency of a transmission system without causing large increase in cost or decrease in reliability, enable effective use of not only a transmission channel but also resources for providing a communication service, and make it possible to flexibly accommodate varieties of multiple access systems, channel mappings, zone configurations, modulation systems, channel control systems, and call setting procedures." (page 8, lines 17-25 in the present invention)

In addition, by achieving the above objects, the inventions in Claims 1, 2, 15, and 16 will also provide ways of coping with the problems and restrictions which cannot be solved by the conventional art, as described in page 5, line 10 to page 7, line 20 in the present invention that "Incidentally, in the above conventional example, ----- that do not relate to the above problem may also change." These problems and restrictions are:

- Delay in process

- Deterioration of responsiveness

- Increase in size of hardware

- Increase in amount to process
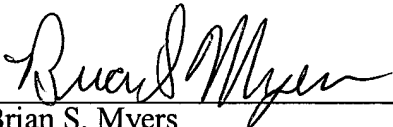
- Increase in power consumption

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- Increase in cost

- Limitations relating to thermal designing or mounting technology.

For at least the foregoing reasons it is respectfully requested the rejections be withdrawn.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,

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